CLAIMS

What is claimed is:

1   1.   A method for automating integration of terminological information

2   into a knowledge base, said method comprising the steps of:

3   receiving input terminology information comprising a plurality of input

4   terms and information that specifies relationships among at least two of said input

5   terms;

6   storing a knowledge base comprising a plurality of nodes, which represent

7   terminology, arranged to depict relationships among said terminology;

8   parsing said input terminology information to generate a logical structure

9   that depicts linguistic relationships among said input terms in a format compatible

10   with said knowledge base;

11   determining whether at least one input term exists as a node in said

12   knowledge base;

13   generating an independent ontology comprising said logical structure if

14   none of said input terms exist as nodes in said knowledge base; and

15   extending said knowledge base by logically coupling said logical structure

16   to a node that matches an input term.

1   2.   The method as set forth in claim 1, further comprising the steps

2   of

3   determining whether an input term that matches a terminological node in

4   said knowledge base connotes a different meaning than said terminological node;

5   if so, then:

6   deleting said terminological node from its existing category -

7   subcategory relationship;

8   logically coupling said parent in said category - subcategory

9   relationship to said subcategory in said category - subcategory relationship to

10   form a new category - subcategory relationship; and

11   extending said knowledge base by logically coupling said input

12   term to a node in said knowledge base.

1   3.   The method as set forth in claim 1, wherein the step of receiving

2   input terminology information comprises the step of receiving said terminology

3   in an ISO 2788 format.

1   4.   The method as set forth in claim 1, wherein:

2   the step of receiving input terminology information comprises the step of

3   receiving broader term and narrower terms relationships among two input terms;

4   the step of storing a knowledge base comprises the step of storing categories

5   hierarchically arranged to include parent - child relationships among categories

6   related hierarchically; and

7   the step of parsing said input terminology information to generate a logical

8   structure comprises the steps of generating a parent - child relationship between

9   two terms comprising a broader term (BT) relationship in said input

10   terminological information, and generating a child - parent relationship between

11   two terms comprising a narrower term (NT) relationship in said input

12   terminological information.

1   5.   The method as set forth in claim 1, wherein:

2   the step of receiving input terminology information comprises the step of

3   receiving synonym relationships between two terms;

4   the step of storing a knowledge base comprises the step of storing categories

5   hierarchically arranged to include parent - child relationships among categories

6   related hierarchically; and

7   the step of parsing said input terminology information to generate a logical

8   structure comprises the steps of generating parent- child relationships between a

9   common parent node in said knowledge base and said input terms specified as

10   synonym relationships in said input terminological information.

1   6.   The method as set forth in claim 1, wherein:

2   the step of receiving input terminology information comprises the step of

3   receiving related term (RT) relationships among at least two input terms;

4   the step of storing a knowledge base comprises the step of storing categories

5   hierarchically arranged to include cross reference (Xref) relationships among

6   categories related; and

7   the step of parsing said input terminology information to generate a logical

8   structure comprises the step of generating cross references between terms

9   comprising a related term (RT) relationship in said input terminological

10   information.

1   7.   The method as set forth in claim 1, wherein:

2   the step of receiving input terminology information comprises the step of

3   receiving preferred term (PT) relationships among at least two input terms;

4   the step of storing a knowledge base comprises the step of storing a

5   canonical/alternate form index that indexes a canonical form from one or more

6   alternate form; and

7   the step of parsing said input terminology information to generate a logical

8   structure comprises the step of generating canonical/alternate form index between

9   terms comprising a preferred term (PT) relationship in said input terminological

10   information.

1   8.   A computer readable medium comprising a plurality of

2   instructions, which when executed, causes the computer to perform the steps of:

3   receiving input terminology information comprising a plurality of input

4   terms and information that specifies relationships among at least two of said input

5   terms;

6   storing a knowledge base comprising a plurality of nodes, which represent

7   terminology, arranged to depict relationships among said terminology;

8   parsing said input terminology information to generate a logical structure

9   that depicts linguistic relationships among said input terms in a format compatible

10   with said knowledge base;

11   determining whether at least one input term exists as a node in said

12   knowledge base;

13   generating an independent ontology comprising said logical structure if

14   none of said input terms exist as nodes in said knowledge base; and

15   extending said knowledge base by logically coupling said logical structure

16   to a node that matches an input term.

1   9.   The computer readable medium as set forth in claim 8, further

2   comprising the steps of

3   determining whether an input term that matches a terminological node in

4   said knowledge base connotes a different meaning than said terminological node;

5   if so, then:

6   deleting said terminological node from its existing category -

7   subcategory relationship;

8   logically coupling said parent in said category - subcategory

9   relationship to said subcategory in said category - subcategory relationship to

10   form a new category - subcategory relationship; and

11   extending said knowledge base by logically coupling said input

12   term to a node in said knowledge base.

1   10.   The computer readable medium as set forth in claim 8, wherein

2   the step of receiving input terminology information comprises the step of

3   receiving said terminology in an ISO 2788 format.

1   11.   The computer readable medium as set forth in claim 8, wherein:

2   the step of receiving input terminology information comprises the step of

3   receiving broader term and narrower terms relationships among two input terms;

4   the step of storing a knowledge base comprises the step of storing categories

5   hierarchically arranged to include parent - child relationships among categories

6   related hierarchically; and

7   the step of parsing said input terminology information to generate a logical

8   structure comprises the steps of generating a parent - child relationship between

9   two terms comprising a broader term (BT) relationship in said input

10   terminological information, and generating a child - parent relationship between

11   two terms comprising a narrower term (NT) relationship in said input

12   terminological information.

1   12.   The computer readable medium as set forth in claim 8, wherein:

2   the step of receiving input terminology information comprises the step of

3   receiving synonym relationships between two terms;

4   the step of storing a knowledge base comprises the step of storing categories

5   hierarchically arranged to include parent - child relationships among categories

6   related hierarchically; and

7   the step of parsing said input terminology information to generate a logical

8   structure comprises the steps of generating parent- child relationships between a

9   common parent node in said knowledge base and said input terms specified as

10   synonym relationships in said input terminological information.

1   13.   The computer readable medium as set forth in claim 8, wherein:

2   the step of receiving input terminology information comprises the step of

3   receiving related term (RT) relationships among at least two input terms;

4   the step of storing a knowledge base comprises the step of storing categories

5   hierarchically arranged to include cross reference (Xref) relationships among

6   categories related; and

7   the step of parsing said input terminology information to generate a logical

8   structure comprises the step of generating cross references between terms

9   comprising a related term (RT) relationship in said input terminological

10   information.

1   14.   The computer readable medium as set forth in claim 8, wherein:

2   the step of receiving input terminology information comprises the step of

3 receiving preferred term (PT) relationships among at least two input terms;

4 the step of storing a knowledge base comprises the step of storing a

5 canonical/alternate form index that indexes a canonical form from one or more

6 alternate form; and

7 the step of parsing said input terminology information to generate a logical

8 structure comprises the step of generating canonical/alternate form index between

9 terms comprising a preferred term (PT) relationship in said input terminological

10 information.

1 15. A computer system comprising:

2 an input device for receiving input terminology information comprising a

3 plurality of input terms and information that specifies relationships among at least

4 two of said input terms;

5 memory for storing a knowledge base comprising a plurality of nodes,

6 which represent terminology, arranged to depict relationships among said

7 terminology; and

8 processor unit, coupled to said memory and said input device for parsing

9 said input terminology information to generate a logical structure that depicts

10 linguistic relationships among said input terms in a format compatible with said

11 knowledge base, for determining whether at least one input term exists as a node

12 in said knowledge base, for generating an independent ontology comprising said

13 logical structure if none of said input terms exist as nodes in said knowledge

14   base; and for extending said knowledge base by logically coupling said logical

15   structure to a node that matches an input term.